

## **IN THE CLAIMS:**

### Amendments to the Claims

Please cancel claims 1-3, 5 and 6 without prejudice or disclaimer of the subject matter thereof, please rewrite claim 4 in independent form, and please amend claim 7 as shown below.

### Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-3 (canceled)

4. (currently amended) A magnetic head apparatus ~~as claimed in claim 1~~ wherein: comprising:

a magnetic disk for storing thereinto information;

a head equipped with a recording conversion element for writing information into the magnetic disk and a reproducing conversion element for reading information from the magnetic disk;

an actuator arranged by a suspension for supporting the head so as to move the head on the magnetic disk, and also a drive apparatus for driving the suspension; and

a stopper for limiting a movable range of the actuator; wherein:

the stopper is formed by an elastic member;

an elastic deformation amount of the stopper is changed by changing force of driving the actuator under such a condition that the actuator is depressed against the stopper in order that the position of said head is adjusted, and a positional dependent characteristic along a radial direction of the magnetic disk as to a reproduction output of the head is measured; and

a relationship between a magnitude of drive force capable of depressing ~~said~~ the actuator against ~~said~~ the stopper and a position of the head along a width direction thereof is defined by that a variation of gradients is limited to 10 % within a range of two tracks of the magnetic disk.

Claims 5 and 6 (canceled)

7. (currently amended) A method for recording a servo signal on a magnetic disk apparatus comprised of: a magnetic disk for storing thereinto information; a head equipped with a recording conversion element for writing information into ~~said~~ the magnetic disk and a reproducing conversion element for reading information from the magnetic ~~head~~ disk; an actuator arranged by a suspension for supporting ~~said~~ the head so as to move the head on the magnetic disk, and also a drive apparatus for driving ~~said~~ the suspension; and a stopper for limiting a movable range of ~~said~~ the actuator; wherein:

at such a stage that a servo signal is recorded on ~~said~~ the magnetic ~~head~~ disk where information used to position ~~said~~ the head has not yet been recorded,

an elastic deformation amount of ~~said~~ the stopper is changed by varying force of driving ~~said~~ the actuator under such a condition that said actuator is depressed against ~~said~~ the stopper so as to change a position of said head in a stepwise mode, and also to record patterns having finite lengths which are not overlapped with each other at a plurality of radial positions.

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